Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An electric-component mounting system wherein an electric component held by a component holder is moved to and positioned at a target mounting position on a substrate supported by a substrate supporting device, and the positioned electric component is mounted on the substrate, said electric-component mounting system comprising:

a main body structure;

a drive device;

a movable portion movable relative to said main body structure;

a motion-transmitting member disposed on said main body structure and linearly extending in one direction, said motion-transmitting member being operable to ~~transmit to~~give said movable portion a linear motion in said one direction ~~generated by~~during an operation of said drive device, such that thermal expansion of said motion-transmitting member causes a corresponding positioning error of said movable portion in the direction of said linear motion;

an object fixedly disposed on ~~one of said main body structure and~~ said movable portion;

an image-taking device fixedly disposed on ~~the other of~~ said main body structure ~~and said movable portion~~ and operable to take an image of said object, said object being spaced apart from said component holder in a direction parallel to said substrate as supported by said substrate supporting device, said object and said image-taking device being ~~positioned~~ disposed relative to each other such that an error of relative positioning of said object and said image-taking device, which is detected on the basis of the image of said object

taken by said image-taking device, substantially represents a thermal-expansion positioning error which is a positioning error of said ~~object~~ object, which positioning error is derived from thermal expansion of the electric-component mounting system; and

a controller operable to apply a drive signal to said drive device, for controlling a position of said movable portion in the direction of said linear motion, said controller determining said drive signal on the basis of said image of said object taken by said image-taking device, so as to reduce an amount of influence of said thermal-expansion positioning error on an actual position of said movable portion in the direction of said linear motion.

2. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein said image-taking device is fixedly disposed ~~on~~ at a portion of said main body structure~~, at a position~~ at which a position of said image-taking device is not substantially influenced by the thermal expansion of the electric-component mounting system, while said object is fixedly disposed ~~on~~ at a portion of said movable portion~~, at a position~~ at which a position of said object is influenced by the thermal expansion of the electric-component mounting system.

3. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein said movable portion carries said component holder operable to hold said electric component by suction, and ~~said object is fixedly disposed on said movable portion, while~~ said image-taking device ~~is fixedly disposed on said main body structure, and~~ is operable to take not only the image of said object but also an image of said electric component as held by said component ~~holder.~~ holder, said controller determining said drive signal on the basis of said image of said electric component as well as said image of said object.

4. (Currently Amended) ~~An~~ The electric-component mounting system according

to claim 1, wherein said movable portion includes a first movable portion, and a second movable portion which carries said component holder operable to hold said electric component by suction, and said motion-transmitting member includes a first motion-transmitting member and a second motion-transmitting member which are operable to move said first and second movable portions, respectively, and which extend in respective directions intersecting each other, the first motion-transmitting member being directly mounted at one of opposite ends thereof on said main body structure, while said second motion-transmitting member being mounted at one of opposite ends thereon on said first movable portion and indirectly mounted on said main body structure, said object being fixedly disposed on said second movable portion.

5. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein said movable portion includes a first movable portion, and a second movable portion which carries said component holder operable to hold said electric component by suction, and said motion-transmitting member includes a first motion-transmitting member and a second motion-transmitting member which are operable to move said first and second movable portions, respectively, and which extend in respective directions intersecting each other, the first motion-transmitting member being directly mounted at one of opposite ends thereof on said main body structure, while said second motion-transmitting member being mounted at one of opposite ends thereon on said first movable portion and indirectly mounted on said main body structure, said object being fixedly disposed on said first movable portion.

6. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein said movable portion includes a first movable portion, and a second movable portion which carries said component holder operable to hold said electric component by suction, and said motion-transmitting member includes a first motion-

transmitting member and a second motion-transmitting member which are operable to move said first and second movable portions, respectively, and which extend in respective directions intersecting each other, the first motion-transmitting member being directly mounted at one of opposite ends thereof on said main body structure, while said second motion-transmitting member being mounted at one of opposite ends thereon on said first movable portion and indirectly mounted on said main body structure, said object consisting of two objects fixedly disposed on said first and second movable portions, respectively.

7. (Currently Amended) ~~An~~ The electric-component mounting system according to ~~claim 1,~~claim 23, wherein said object is fixedly disposed ~~on~~ at a portion of said main body structure~~, at a position~~ at which a position of said object is not substantially influenced by the thermal expansion of the electric-component mounting system, while said image-taking device is fixedly disposed ~~on~~ at a portion of said movable portion~~, at a position~~ at which a position of said image-taking device is influenced by the thermal expansion of the electric-component mounting system.

8. (Currently Amended) ~~An~~ The electric-component mounting system according to ~~claim 1,~~claim 23, wherein said movable portion includes a movable member which is movable relative to said substrate and which carries said image-taking device, said image-taking device being moved with said movable member to take an image of a fiducial mark provided on said substrate, as well as the image of said object, said object being fixedly disposed on said main body ~~structure.~~structure, said controller determining said drive signal on the basis of said image of said fiducial mark as well as said image of said object.

9. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein said movable portion consists of a plurality of movable portions at least one of which includes said component holder operable to hold said electric component by suction, at least one of the other of said plurality of movable portions including a movable

member movable relative to said substrate, for the image-taking device to take an image of a fiducial mark provided on said substrate,

said object consisting of a plurality of objects including at least one first object fixedly disposed on said at least one movable portion, and at least one second object which corresponds to said at least one of said other of said plurality movable portions and which is fixedly disposed on said main body structure,

said image-taking device consisting a plurality of image-taking devices including at least one first image-taking device which corresponds to said at least one movable portion and each of which is fixedly disposed on said main body portion and operable to take not only an image of said at least one first object but also an image of said electric component held by said component holder, said plurality of image-taking device further including at least one second image-taking device which is fixedly disposed on said at least one of said other of said plurality of movable portions, for taking not only an image of said at least one second object but also the image of said fiducial mark,

and wherein said controller determines said drive signal, on the basis of the images of said at least one first object and said electric component taken by said at least one first image-taking device and the images of said at least one second object and said fiducial mark taken by said at least one second image-taking device, so as to reduce the amount of influence of said thermal-expansion positioning error on the actual position of each of said plurality of movable portions in the direction of said linear motion.

10. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, comprising a plurality of positioning devices each of which consists of said movable portion, said drive device and said motion-transmitting member, and wherein a set of said object and said image-taking device is provided for each of said plurality of positioning devices.

11. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein one of said object and said image-taking device which is fixedly disposed on said main body structure is provided at a plurality of positions which are spaced apart from each other in the direction of extension of said motion-transmitting member.

12. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein said object has a central portion and a peripheral portion which are imaged by said image-taking device such that said central portion and said peripheral portion can be distinguished from each other, said central portion and said peripheral portion lie in respective two parallel planes which are spaced from said image-taking device by respective different distances when the image of said object is taken by said image-taking device, said central portion lying on one of said two parallel planes which is nearer to said image-taking device than the other plane.

13. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 12, wherein said central portion has a surface having a lower value of brightness than a surface of said peripheral portion.

14. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 13, wherein the surface of said central portion has a lower value of light reflectance than the surface of said peripheral portion.

15. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 13, wherein the surface of said central portion does not emit a light while the surface of said peripheral portion emits a light.

16. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 12, wherein said object includes a main body, and a projecting portion extending from a surface of said main body, said central portion consisting of a distal end face of said projecting portion, while said peripheral portion consisting of a portion of the surface of said

main body which surrounds a proximal end of said projecting portion.

17. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 16, wherein said end face of said projecting portion has a circular shape.

18. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 16, wherein said distal end face of said projecting portion has an outer profile located outwardly of an outer profile of said proximal end, as seen in a direction in which the image of said object is taken by said image-taking device.

19. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 18, wherein said peripheral portion is provided by an adhesive-backed layer attached to said portion of the surface of said main body, and said projecting portion is a projecting part of a projecting member, said projecting part having said distal end face, and a proximal end face opposite to said distal end face, said projecting member including a proximal end part having a smaller size in transverse cross section than said projecting part, said projecting member having a shoulder surface formed between said proximal end part and said proximal end face of said projecting part, said adhesive-backed layer having a through-hole in which said proximal end part is fitted such that said shoulder surface is held in contact with a portion of said adhesive-backed layer in which said through-hole is formed.

20. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein said controller includes imaging-frequency control means for operating said image-taking device to take the image of said object more frequently when a rate of change of said thermal-expansion positioning error is relatively high than when said rate of change is relatively low.

21. (Currently Amended) ~~An~~ The electric-component mounting system according to claim 1, wherein said controller includes proportional-type drive-signal determining means for determining said drive signal, so as to reduce the amount of influence of said thermal-

expansion positioning error on the actual position of said movable portion in the direction of said linear motion, on an assumption that an amount of thermal expansion of said motion-transmitting member at a given position in the direction of said linear motion is proportionally increased with a distance of said given position from a predetermined reference point established on said motion-transmitting member in the direction of said linear motion.

22. (New) The electric-component mounting system according to claim 1, wherein said object and said image-taking device are disposed relative to each other, so as to permit said image-taking device to take said image of said object while said electric component is held by said component holder.

23. (New) An electric-component mounting system wherein an electric component held by a component holder is moved to and positioned at a target mounting position on a substrate, and the positioned electric component is mounted on the substrate, said electric-component mounting system comprising:

a main body structure;

a drive device;

a movable portion movable relative to said main body structure;

a motion-transmitting member disposed on said main body structure and linearly extending in one direction, said motion-transmitting member being operable to give said movable portion a linear motion in said one direction during an operation of said drive device, such that thermal expansion of said motion-transmitting member causes a corresponding positioning error of said movable portion in the direction of said linear motion;

an object fixedly disposed on said main body;

an image-taking device fixedly disposed on said movable portion and operable to take an image of said object, said object and said image-taking device being disposed

relative to each other such that an error of relative positioning of said object and said image-taking device, which is detected on the basis of the image of said object taken by said image-taking device, substantially represents a thermal-expansion positioning error which is a positioning error of said object, which positioning error is derived from thermal expansion of the electric-component mounting system; and

a controller operable to apply a drive signal to said drive device, for controlling a position of said movable portion in the direction of said linear motion, said controller determining said drive signal on the basis of said image of said object taken by said image-taking device, so as to reduce an amount of influence of said thermal-expansion positioning error on an actual position of said movable portion in the direction of said linear motion.

24. (New) The electric-component mounting system according to claim 23, wherein said movable portion consists of a plurality of movable portions at least one of which includes said component holder operable to hold said electric component by suction, at least one of the other of said plurality of movable portions including a movable member movable relative to said substrate, for the image-taking device to take an image of a fiducial mark provided on said substrate,

said object consisting of a plurality of objects including at least one first object fixedly disposed on said at least one movable portion, and at least one second object which corresponds to said at least one of said other of said plurality movable portions and which is fixedly disposed on said main body structure,

said image-taking device consisting a plurality of image-taking devices including at least one first image-taking device which corresponds to said at least one movable portion and each of which is fixedly disposed on said main body portion and operable to take not only an image of said at least one first object but also an image of said

electric component held by said component holder, said plurality of image-taking device further including at least one second image-taking device which is fixedly disposed on said at least one of said other of said plurality of movable portions, for taking not only an image of said at least one second object but also the image of said fiducial mark, and

wherein said controller determines said drive signal, on the basis of the images of said at least one first object and said electric component taken by said at least one first image-taking device and the images of said at least one second object and said fiducial mark taken by said at least one second image-taking device, so as to reduce the amount of influence of said thermal-expansion positioning error on the actual position of each of said plurality of movable portions in the direction of said linear motion.

25. (New) The electric-component mounting system according to claim 23, wherein one of said object and said image-taking device which is fixedly disposed on said main body structure is provided at a plurality of positions which are spaced apart from each other in the direction of extension of said motion-transmitting member.

26. (New) The electric-component mounting system according to claim 23, wherein said object has a central portion and a peripheral portion which are imaged by said image-taking device such that said central portion and said peripheral portion can be distinguished from each other, said central portion and said peripheral portion lie in respective two parallel planes which are spaced from said image-taking device by respective different distances when the image of said object is taken by said image-taking device, said central portion lying on one of said two parallel planes which is nearer to said image-taking device than the other plane.

27. (New) The electric-component mounting system according to claim 26, wherein said central portion has a surface having a lower value of brightness than a surface of said peripheral portion.

28. (New) The electric-component mounting system according to claim 27, wherein the surface of said central portion has a lower value of light reflectance than the surface of said peripheral portion.

29. (New) The electric-component mounting system according to claim 27, wherein the surface of said central portion does not emit a light while the surface of said peripheral portion emits a light.

30. (New) The electric-component mounting system according to claim 26, wherein said object includes a main body, and a projecting portion extending from a surface of said main body, said central portion consisting of a distal end face of said projecting portion, while said peripheral portion consisting of a portion of the surface of said main body which surrounds a proximal end of said projecting portion.

31. (New) The electric-component mounting system according to claim 30, wherein said end face of said projecting portion has a circular shape.

32. (New) The electric-component mounting system according to claim 30, wherein said distal end face of said projecting portion has an outer profile located outwardly of an outer profile of said proximal end, as seen in a direction in which the image of said object is taken by said image-taking device.

33. (New) The electric-component mounting system according to claim 32, wherein said peripheral portion is provided by an adhesive-backed layer attached to said portion of the surface of said main body, and said projecting portion is a projecting part of a projecting member, said projecting part having said distal end face, and a proximal end face opposite to said distal end face, said projecting member including a proximal end part having a smaller size in transverse cross section than said projecting part, said projecting member having a shoulder surface formed between said proximal end part and said proximal end face of said projecting part, said adhesive-backed layer having a through-hole in which said

proximal end part is fitted such that said shoulder surface is held in contact with a portion of said adhesive-backed layer in which said through-hole is formed.

34. (New) The electric-component mounting system according to claim 23, wherein said controller includes imaging-frequency control means for operating said image-taking device to take the image of said object more frequently when a rate of change of said thermal-expansion positioning error is relatively high than when said rate of change is relatively low.

35. (New) The electric-component mounting system according to claim 23, wherein said controller includes proportional-type drive-signal determining means for determining said drive signal, so as to reduce the amount of influence of said thermal-expansion positioning error on the actual position of said movable portion in the direction of said linear motion, on an assumption that an amount of thermal expansion of said motion-transmitting member at a given position in the direction of said linear motion is proportionally increased with a distance of said given position from a predetermined reference point established on said motion-transmitting member in the direction of said linear motion.